



# INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

## A Review On Workplace Hazards Faced By The Workers In The Textile Industry

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### ABSTRACT:

Textile industry in India contributes a lot to the growth of Indian economy and plays an important role in providing the employment to the rural and urban population in India but it fails to foster education and health as key component of human development. There are different hazards faced by the workers in textile industry such as exposure to cotton dust, exposure to chemicals, noise and ergonomics issues etc. To prevent the health issues of workers in industries it is essential that the workers be aware of the various occupational hazards in the industry.

By health and safety issues means the occupational health hazards that include physical hazards, chemical related hazards, biological issues, ergonomical hazards and by environmental aspects means the effect of chemical gases and liquids released by textile plants on environment. This indicates that occupational health and safety practices were not satisfied at the workplace. Therefore, the organization should take the serious implementation of (OHAS) at the workplace.

**INDEX TERMS-** Textile Industry, OHAS, Health Hazards, Safety Issues, workplace hazards

### INTRODUCTION:

Textile sector in India plays an important role in the country's economy; providing employment to a significant population in rural and urban area. The processes involved in the production of clothing and other finished textile products have changed little since the inception of the industry. (Singh, N. 2016).

The textile industry of our country has achieved greater heights as compared to rest of the textile industries all over the globe with large variety of unmatched fresh material base along with the chain of manufacturing strength. India comes at second position in manufacturing along with exporting of textile. The first position is secured by the world largest populated country China. The textile industry consists of a number of units engaged in spinning, weaving, dyeing, printing, finishing and a number of other processes that are required to convert fibre into a finished fabric or garment. There are several safety and health issues associated with the textile industry. This article aimed at developing a framework for understanding risks to textile workers resulting from lack of health and safety standards in industries.

### WORKPLACE HAZARDS:

The textile manufacturing industry consists of wide variety of machines as well as related equipment along with correlated units for converting the raw material into a finished good[4]. So as it involves various units so there are many no. of safety as well as health issues are involved in textile divisions. It is true that the work offers a lot of economic as well as other paybacks but there are wide range of work environment hazards that have risk to health and safety of the employee at work.

The foremost health as well as safety subjects in the division of textile can be classified on the basis of exposure to the following:

- a. Exposure to dust of cotton material.
- b. Exposure to hazardous process chemicals
- c. Exposure to noise produce by the working machines.
- d. Ergonomic problems.
- e. Exposure to biological substances.
- f. Machine Injury
- g. Job Stress

**a) Exposure to cotton dust:**

The workers engaged in the processing and spinning of cotton are exposed to significant amounts of cotton dust. They are also exposed to particles of pesticides and soil. Exposure to cotton dust and other particles leads to respiratory disorders among the textile workers. The fatal disease of byssinosis commonly known as brown lung, is caused among people working in the textile industry on account of excessive exposure to cotton dust. The symptoms of this disease include tightening of the chest, coughing, wheezing and shortness of breath. Due to the exposure of cotton dust as well as other hazardous dust the textile sector workers gets respiratory issues. Because of implementation of this standard the rate of occurrence of the disease namely byssinosis is significantly reduced. According to (OSHA Standard 29 CFR 1910.1043) the normal range of cotton dust particles should not be above 200 micrograms per cubic meter at the workplace. The cotton dust possesses small microscopic particles which are present in our atmosphere. Workers inhale dust particles into the body which causes major diseases like chest problems. The inadequate ventilation at workplace promotes the cotton dust in the atmosphere.

**b) Exposure to hazardous process chemical:**

Workers in the textile division gets exposure to a variety of chemicals. Mostly those who are involved in the activities of dyeing, printing as well as finishing. Textile manufacturing involve the usage of various chemicals namely chemicals that are based upon benzidine optical which provide brightness, solvents along with fixatives, crease - confrontation substance that produces formaldehyde, flame retarders that consists of compounds of organophosphorus as well as organ bromine, antimicrobial agents are also in use in textile plants.

problems that are found in workers involved in textile sector are:

- Oral disease
- Throat cancer
- Gastrointestinal tracts

**c) Exposure to noise produce by the working machines:**

A very high level of noise has been found to be generated in many of the units of the textile process plants. A long term exposure to noise and that too of very high frequency can lead to damage to eardrum and leading to loss in hearing. Along with this continuous exposure to high level noise can lead to severe health effects that include fatigue, absenteeism, annoyance, anxiety issues, work efficiency reduction, disturbance in pulse rate as well as in blood pressure rate along with this sleeping problems. According to (OSHA standard 2201-08R 2015) 75 dB noise level is non-hazardous whereas; hearing protection regulations start from 85 dB and 95 dB noise levels are the risk of hearing damage. The maximum noise in manufacturing organizations should be 75-80dB.

**d) Ergonomic problems**

The ergonomic problems have been found in many of the units of textile based industries in India. Working environment in most of these units is unsafe as well as unhealthy for every worker. Workers involved in these particular division had to face a no. of difficulties which involve unsuitable furniture, inadequate air ventilation as well as improper lighting, along with this the absence of adequate safety measures in the event of an emergency. Workers involved in these textile units had to face many occupational related hazards. As per a study by Parimalam, Kamalamma N. and Ganguli AK in the year 2006, there is a considerable difference in the heights of the stools and the tables used for various operations such as cutting and ironing. This led to the workers having to sit in an uncomfortable

position for entire work days. The stools were not padded in most of the units, leading to increased discomfort on the part of the workers. Moreover, the stools did not have a backrest, as a result of which the workers did not get adequate support to the back. In most of the units, the level of lighting was low and improper placement of lighting fixtures led to low lighting at the point of work, leading to eye strain.

**e) Exposure to biological substances:**

Workers associated with activities like carding as well as willowing get exposed to biological agents such as anthrax, *Coxiella burnetii*, as well as *Clostridium tetani*. Exposure to them can lead to allergies as well as respiratory issues.

**f) Machine Injury:**

An accident which occurs by the machine during the manufacturing process is called machine injury. There are thousands of workers working in making fabric and yarn for clothing in a textile mill and spend most of their time near the machines and on the production floor. The workers lose their body parts like; fingers, hand, face, mouth and foot due to machine injuries. Hollow needle injects into the body during work, resulting in human immunodeficiency Virus (HIV), hepatitis C and infectious disease in the body.

Improper furniture/ equipment leads to enormous side effects. It has a great influence physically and mentally and affects the performance of workers. The improper furniture/ equipment decreases workers' performance and productivity. Proper furniture helps to motivate the workers and enhancing their performance substantially.

**g) Job Stress:**

The job stress is a psychological hazard. This stress follows as the most omnipresent and prominent health hazard in the social environment. Stressful job makes the worker mentally disturbed.

## HEALTH HAZARDS IN VARIOUS UNITS:

### Yarn manufacturing unit:

The main process in yarn manufacturing unit involves Inaugural, blending, mixing and scrubbing- carding and combing- drawing and roving- spinning- winding and spooling. Yarn comprises of various strands of material twisted together. Each strand is, in turn, made of fibers, all shorter than the piece of yarn that they form.

### Health hazards due to yarn:

In cotton textile industry accident will happen due to equipment on all types of cotton textile machinery. Operative guarding of the multiplicity of moving parts offerings many difficulties and needs continuous consideration.

### Cotton dust inhalation (byssinosis):

The workers which work in the processing and spinning of cotton are visible to pesticides and soil. When the employee are Exposure to cotton dust and other particles it will leads to disorders related to respiratory among the textile workforces.

### Hazards due to noise emission:

In Yarn manufacturing Process Noise can be a big problem. Due to the higher rotatry and travelling speeds in machine parts Noise release rises non-linearly. In the long run, exposure to high noise levels has been known to damage the eardrum and cause hearing loss.

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